Virus DNA/RNA Extraction Kit

(SUP-0116)

User's Manual

Version 1.0

04/2020

Professional use only








Symbol and symbol definition			
Temperature limit	Use-by date	In vitro Diagnostic Medical Device	Date of manufacture
Batch code	Catalogue number	CE Marking logo	Manufacturer

Product Name:

Virus DNA/RNA Extraction Kit

Catalogue reference number :

SUP0116

Packing Specifications :

Specification: 96 Preps/kit

Product description :

The Virus DNA/RNA Genome Extraction Kit is designed for rapid and reliable isolation of total nucleic acid from swab\saliva and other body fluids. This Kit provides high-quality RNA or DNA, which is suitable for direct use in most downstream application such as amplifications and enzymatic reactions. This Kit is pre assembly which can be easily adapted to automated systems. The procedure can be scaled up or down, allowing purification from various amounts of starting material.

Intended Use

This kit with reagents for 96 isolation was designed for the isolation DNA/RNA from upper respiratory tract specimens (including oral swabs, throat swabs, nasal swabs, nasopharyngeal extracts), lower respiratory tract specimens (including bronchoalveolar lavage fluid ， alveolar lavage fluid).

The kit is “For Professional Use Only” by trained and validated laboratory personnel. Read these instructions carefully before use the kit.

Kit Storage and Handling

The Virus DNA/RNA Genome Extraction Kit (96 Preps) can be stored at room temperature (15～25°C)for at least 6 months if not otherwise stated on label.

Specimen collection and handling

Typical Clinical samples are swab and bronchoalveolar lavage.

Swab: Uses the plastic rod swab with polypropylene fiber head to wipe the bilateral pharyngeal tonsils and the posterior pharyngeal wall at the same time, immerse the swab head into the tube containing physiological saline, discard the tail, and tighten the tube cover.

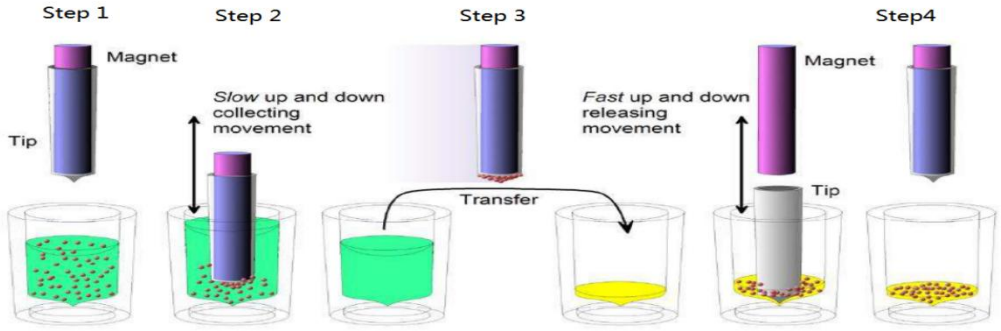
Bronchoalveolar Lavage: Collect bronchoalveolar lavage for test. The collected sample should be used for detection as soon as possible. If the sample needs to be transferred cannot be detected immediately, please store it at low temperature.

The sample can be stored for 24 hours at 2～8℃ and for a long time below -70℃. It can also be stored in refrigerator at -20℃ temporarily.

Samples shall be transported at low temperature in accordance with biosafety regulations.

Principle of the Procedure

The isolation procedure is based on magnetic beads technology and can be divided into the following steps:



1) Lysis and stabilization of the sample with Lysis-binding buffer

2) Magnetic beads are added to specimens lysate, and total nucleic acids (RNA, DNA) are bound onto the Magnetic beads during incubation.

3) Magnetic beads are separated by magnetic separator and unbound material is removed by washing.

4) Nucleic acids (RNA and DNA) are eluted from the Magnetic beads. At this stage, the nucleic acids can be used for DNA and RNA analysis.

Kit Contents and Preparation of working solution

Well No.	Catalogue number	SUP0116	Materials	storage
	Packing Specifications	96T		
1	Buffer AVL	6×96 Deep Well plate	Guanidine isothiocyanate,isopropanol ,DTT,glycogen，Beads	15～25 °C
2	Buffer WA		Guanidine-HCl,Tris-HCl	
3\4	Buffer WB×2 well		NaCl, Tris-HCl	
5	Blank		Air	
6	Elution Buffer		Tris-HCl,pH 8.5 (+25°C)	
	Proteinase K	2×1 ml	20mg/ml Proteinase K	-20～0°C
	Manual Book	1		

Note: The components in different batches of reagents can be used interchangeably within the validity period.

Materials and equipment to be supplied by user:

Equipment:

nucleic acid extraction and purification instrument (32 channel) (cat.no. AS-32A)

Vortex mixer (cat.no. Sup201102)

Temperature bath (10-100 ℃) (cat.no. Sup201101)

8-magnetic comb (12 for 96 samples) (cat.no.AS-8)

Procedure：

1、At the beginning of your experiment, you should make sure your automatic extraction steps as follows:

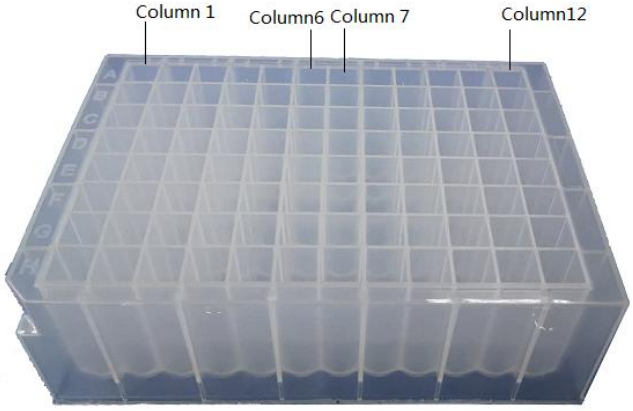
Steps	Well	Mix Time (min)	Magnetic absorption time (sec)	Wating time (min)	Volume (ul)	Mixing Speed (1-10)	Tempture (℃)
1	1	5	0	0	720	5	70
2	2	0	60	0	500	5	0
3	1	5	90	0	720	5	0
4	2	2	60	0	500	9	0
5	3	1	60	0	500	9	0
6	4	1	60	2	500	9	0
7	6	4	90	0	80	5	65
8	4	1	0	0	500	10	

2、After the procedure is over, bring out the prepackaged reagent plate from the reagent box, mix it up and down several times to make sure the magnetic beads resuspended and then remove the vacuum package. Gently swing reagent plate to make reagent and magnetic beads collect in the plate (centrifuge can also be used, 500 rpm / min for short centrifugation).

3、Carefully tear off the aluminum sealing film before use.

Caution : Avoid the reagent plate vibration and liquid spilling out . If the liquid splashes out, wash the affected area with plenty of water immediately.

4、Transfer 200 μl samples and 20 μl proteinase K into the reagent plate well of A1 and A7 (Column 1\7 are sample wells).



Reagent plate

5、Put the plate into the nucleic acid extraction and purification instrument , and insert the magnetic comb in to the automatic instrument groove, and close the working chamber door.

Caution: When you are ready for the extraction, please make sure the reagent plate holds tightly and the comb has been inserted rightly.

6、Run the procedure as step 1 mentioned . Just need about 20 minutes the run is over.

7、Take out the plate and transfer the DNA/RNA from the well of A6/A12 (Column6/12 as the picture mentioned in step 4.) to the 1.5 ml tube and the the DNA / RNA is ready-to-use for next q-PCR analysis .

8、Pull out the magnetic comb and discarded to the tank which contains 10% hypochlorous acid.

Warnings and Precautions

1. Before use, carefully check whether the reagent components are complete.Frozen samples should be thawed and mixed before use.
2. The detected sample shall be deemed as having infectious substances, and operation and treatment shall both conform to the requirements of relevant laws and regulations.
3. Sample treatment in the biosafety cabinet, wears work clothes and disposable gloves during the test process and use the dump tubular pipettor. The pipettes used in the experiment should be directly put into the waste tank containing the disinfectant, and discarded after being sterilized together with other waste.
4. It is recommended performing UV disinfection of the nucleic acid extraction instrument for 20 minutes before and after the experiment.
5. A small amount of magnetic beads may remain during elution. Avoid removing magnetic beads when removal DNA / RNA for subsequent operations.
6. This kit contains guanidine salts (e.g., guanidine thiocyanate and guanidine hydrochloride) that may produce hazardous gases when combined with bleach (sodium hypochlorite) and/or strong acids.
7. After the completion of experiment, it shall use 10% hypochlorous acid, 75% alcohol or ultraviolet radiator for disinfection.
8. The operators should have operational experience and have received professional training.
9. This kit is only used for in vitro diagnosis.

References

1. Brestovac B, Wong ME, Costantino PS, etal. A rapid DNA extraction method suitable for human papillomavirus detection. J Medical Virol. 2014, 86(4): 653-7.
2. Berensmeier S. Magnetic particles for the separation and purification of nucleic acids. Appl Microbiol Biotechnol. 2006, 73(3): 495-504.
3. Katevatis C, Fan A, Klapperich CM. Low concentration DNA extraction and recovery.using a silica solid phase. PloS One. 2017, 12(5): e0176848.
4. He H, Li R, Chen Y, etal. Integrated DNA and RNA extraction using magnetic beads from viral pathogens causing acute respiratory infections. Sci Rep. 2017, 7: 45199.

Manufacture Basic Information

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Production&Expiration Dates: on the Label